

Applicants: Philip O. Livingston and Friedhelm Helling
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Exhibit A

Amended Claims

- 78. (Twice Amended) A composition which comprises:
- a) a conjugate of i) a ganglioside derivative which comprises an unaltered oligosaccharide part and an altered ceramide portion comprising a sphingosine base, to ii) Keyhole Limpet Hemocyanin or a derivative thereof comprising an ϵ -aminolysyl group;
 - b) a saponin derivable from the bark of a Quillaja saponaria Molina tree; and
 - c) a pharmaceutically acceptable carrier;
- the relative amounts of such conjugate and such saponin being effective to stimulate or enhance antibody production in a subject;
- wherein the ganglioside derivative is a derivative of a ganglioside selected from the group consisting of GM2, GM3, GD2, GD3, GD3 lactone, O-acetyl GD3 and GT3; [and]
- wherein in the conjugate the ganglioside derivative is [conjugated] covalently bound to Keyhole Limpet Hemocyanin or the derivative thereof through a C-4 carbon of the sphingosine base of the ceramide portion of the ganglioside derivative to the ϵ -aminolysyl group of Keyhole Limpet Hemocyanin or the derivative thereof, wherein the C-4 carbon is present in a CH₂ group; and
- wherein the derivative comprises Keyhole Limpet Hemocyanin linked to an immunological adjuvant, a non-ionic block copolymer, or a cytokine.--

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--93.

(Twice Amended) A method of stimulating or enhancing antibody production in a subject which comprises administering to the subject an effective amount of a composition which comprises:

- a) a conjugate of i) a ganglioside derivative which comprises an unaltered oligosaccharide part and an altered ceramide portion comprising a sphingosine base, to ii) Keyhole Limpet Hemocyanin or a derivative thereof comprising an ϵ -aminolysyl group;
- b) a saponin derivable from the bark of a Quillaja saponaria Molina tree; and
- c) a pharmaceutically acceptable carrier;

the relative amounts of such conjugate and such saponin being effective to stimulate or enhance antibody production in the subject;

wherein the ganglioside derivative is a derivative of a ganglioside selected from the group consisting of GM2, GM3, GD2, GD3, GD3 lactone, O-acetyl GD3 and GT3; [and]

wherein in the conjugate the ganglioside derivative is [conjugated] covalently bound to Keyhole Limpet Hemocyanin or the derivative thereof through a C-4 carbon of the sphingosine base of the ceramide portion of the ganglioside derivative to the ϵ -aminolysyl group of Keyhole Limpet Hemocyanin or the derivative thereof, wherein the C-4 carbon is present in a CH₂ group, so as to thereby stimulate or enhance antibody production in the subject; and wherein the derivative comprises Keyhole Limpet Hemocyanin linked to an immunological adjuvant, a non-ionic block copolymer, or a cytokine.--

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--95. (Twice Amended) A method of treating a cancer in a subject which comprises administering to the subject an effective cancer treating amount of a composition which comprises:

- a) a conjugate of i) a ganglioside derivative which comprises an unaltered oligosaccharide part and an altered ceramide portion comprising a sphingosine base, to ii) Keyhole Limpet Hemocyanin or a derivative thereof comprising an ϵ -aminolysyl group;
- b) a saponin derivable from the bark of a Quillaja saponaria Molina tree; and
- c) a pharmaceutically acceptable carrier;

the relative amounts of such conjugate and such saponin being effective to stimulate or enhance antibody production in the subject;

wherein the ganglioside derivative is a derivative of a ganglioside selected from the group consisting of GM2, GM3, GD2, GD3, GD3 lactone, O-acetyl GD3 and GT3; [and]

wherein in the conjugate the ganglioside derivative is [conjugated] covalently bound to Keyhole Limpet Hemocyanin or the derivative thereof through a C-4 carbon of the sphingosine base of the ceramide portion of the ganglioside derivative to the ϵ -aminolysyl group of Keyhole Limpet Hemocyanin or the derivative thereof, wherein the C-4 carbon is present in a CH₂ group, so as to thereby treat a cancer in the subject; and

wherein the derivative comprises Keyhole Limpet Hemocyanin linked to an immunological adjuvant, a non-ionic block copolymer, or a cytokine.--